

## [54] SYSTEM FOR ANIMATING PROGRAM OPERATION AND DISPLAYING TIME-BASED RELATIONSHIPS

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## [57] ABSTRACT

In a computerized simulation system, the behavior of a model comprising a group of interrelated objects in an object oriented programming environment is defined by a constraint network including temporal constraints, which the future behavior of the model must satisfy following triggering events. Following a triggering event, time stamped representations of messages are created and stored in a queue. The value of a time variable representing time is progressively incremented and the message indicated by each enqueued representation is sent to the model as the value of the time variable surpasses the value of the time stamp of the representation. The message representations and the value of their time stamps are created according to the requirements of the constraint network such that the messages cause the model to perform the appropriate actions at the appropriate times in order to satisfy the temporal constraints defined by the constraint network.

16 Claims, 11 Drawing Sheets

